

REPLACEMENT SHEET  
7/51

# Figure 6

## Alignment of w.t. MNT and mutant mnt-1 cDNA

MNT	*	20	*	40	*	60
ATGCCGAGTTCGGAGGTTTCATTGAAAGCTAATCGTGGAGGAGATAACTTCTCCTCCTCT						
ATGCCGAGTTCGGAGGTTTCATTGAAAGCTAATCGTGGAGGAGATAACTTCTCCTCCTCT						
mnt-1						
	*	80	*	100	*	120
GGTTTTAGTGACCCCTAAGGAGACTAGAAATGTCTCCGTCGGCCGGCAGGGGGCAAAATAGT						
GGTTTTAGTGACCCCTAAGGAGACTAGAAATGTCTCCGTCGGCCGGCAGGGGGCAAAATAGT						
	*	140	*	160	*	180
AATTCTACCCGATCCGCTGCCGCTGAGCGTGCCTTGGACCCCTGAGCGCTGCTCTTACAGT						
AATTCTACCCGATCCGCTGCCGCTGAGCGTGCCTTGGACCCCTGAGCGCTGCTCTTACAGT						
	*	200	*	220	*	240
SAGCTATGGCAGCTTGTGCTGGTCCGCTTGTGACGGTTCCTAGACAGAGACGCGGAGTC						
SAGCTATGGCAGCTTGTGCTGGTCCGCTTGTGACGGTTCCTAGACAGAGACGCGGAGTC						
	*	260	*	280	*	300
TTCTATTTTCCCTCAAGGACACATCGAGCAGGTGGAGGCTTCGACGAACCAAGCGGAGT						
TTCTATTTTCCCTCAAGGACACATCGAGCAGGTGGAGGCTTCGACGAACCAAGCGGAGT						
	*	320	*	340	*	360
CAACAGATGCCCTCTCTATGATCTCCGTCAAAGCTTCTCTGTGAGTTATTAATGTAGAT						
CAACAGATGCCCTCTCTATGATCTCTCCGTCAAAGCTTCTCTGTGAGTTATTAATGTAGAT						
	*	380	*	400	*	420
TTTAAAGGAGAGGAGATACAGATGAGTTTATGCGCAGATTAATCTCTCTCTCTGAGGCT						
TTTAAAGGAGAGGAGATACAGATGAGTTTATGCGCAGATTAATCTCTCTCTCTGAGGCT						
	*	440	*	460	*	480
AATCAAGACGAGAAATGCAATTGAGAAAGAGCGCCCTCTTCTCCACCTCCGAGGTTCCAG						
AATCAAGACGAGAAATGCAATTGAGAAAGAGCGCCCTCTTCTCCACCTCCGAGGTTCCAG						
	*	500	*	520	*	540
GTGCATTGCTTCTGCAAAACCTTGACTGCATCCGACACAGTACACATGGTGGATTTTCT						
GTGCATTGCTTCTGCAAAACCTTGACTGCATCCGACACAGTACACATGGTGGATTTTCT						

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\* 1100 \* 1120 \* 1140  
 ACTAGGTGGCCAAANN CAAAGTGGAGATCCCTCAAGGTCAGATGGGATGAGACTTCTAGC  
 ACTAGGTGGCCAAANN CAAAGTGGAGATCCCTCAAGCTGAGATGGGATGAGACTTCTAGC

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\* 1160 \* 1180 \* 1200  
ATTCCCTCGACCTGATAGAGTATCTCCGTGGAAAGTAGAGCCAGCTCTTGCTCCCTCTGCT  
ATTCCCTCGACCTGATAGAGTATCTCCGTGGAAAGTAGAGCCAGCTCTTGCTCCCTCTGCT

\* 1220 \* 1240 \* 1260  
TTGAGTCCTGTTCCAAAGCCTAGGCGCTAAGAGGCGCCAGATCAATATAGCACCTTCACTCT  
TTGAGTCCTGTTCCAAAGCCTAGGCGCTAAGAGGCGCCAGATCAATATAGCACCTTCACTCT

\* 1280 \* 1300 \* 1320  
CCTGACTCTTCGATGCTTACCGAGAGAGGTACAACTAAGGCATACATGGACCCCTTTACCA  
CCTGACTCTTCGATGCTTACCGAGAGAGGTACAACTAAGGCATACATGGACCCCTTTACCA

\* 1340 \* 1360 \* 1380  
GCARGCGGACTTTCAAGGGTCTTGCAAGGTCAAGATACCTCGACCTTGAGGACCAAGCA  
GCARGCGGACTTTCAAGGGTCTTGCAAGGTCAAGATACCTCGACCTTGAGGACCAAGCA

\* 1400 \* 1420 \* 1440  
ACTGAGAGTGTAGAGTGTGATGCTCCTGAGAAATCTGTGTCTGSCAATCTTCAGCGGAT  
ACTGAGAGTGTAGAGTGTGATGCTCCTGAGAAATCTGTGTCTGSCAATCTTCAGCGGAT

\* 1460 \* 1480 \* 1500  
GATGATAGGTTGACGTGGTTTCGGGTTCTAGAGATATGGATCTGAGAACTGGATGTCC  
GATGATAGGTTGACGTGGTTTCGGGTTCTAGAGATATGGATCTGAGAACTGGATGTCC

\* 1520 \* 1540 \* 1560  
TCAGCCAGGCATGAACTACTTACACAGATTTGCTCTCCGGCTTTGGGACTAACATAGAT  
TCAGCCAGGCATGAACTACTTACACAGATTTGCTCTCCGGCTTTGGGACTAACATAGAT

\* 1580 \* 1600 \* 1620  
CCATCCCATGGTCAGCGGATACCTTTTTATGACCATTCATGATCACCTTCTATGCCCTGCA  
CCATCCCATGGTCAGCGGATACCTTTTTATGACCATTCATGATCACCTTCTATGCCCTGCA

\* 1640 \* 1660 \* 1680  
AAGAGAAATCTTGAGTGATTCAGAGGGCAAGTTGGATTATCTTGCTAACCACTGGCAGATG  
AAGAGAAATCTTGAGTGATTCAGAGGGCAAGTTGGATTATCTTGCTAACCACTGGCAGATG

\* 1700 \* 1720 \* 1740  
ATTACACTCTGGTCTCTCCCTGAGTTACATGAATCTCCCAAGGTACCTGCGCAACTGAT  
ATTACACTCTGGTCTCTCCCTGAGTTACATGAATCTCCCAAGGTACCTGCGCAACTGAT

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\* 1760 \* 1780 \* 1800  
GCCGTCCTCCAGGGCCGATGCATGTTAATACAGCGAATATCCTGTTCTTAATGGTCTA  
GCCGTCCTCCAGGGCCGATGCATGTTAATACAGCGAATATCCTGTTCTTAATGGTCTA

\* 1820 \* 1840 \* 1860  
TCGACTGAGAAATGCTGGTGGTAACTGGCCAAATACGTCCACGTGCTTTGAAATTATTATGAG  
TCGACTGAGAAATGCTGGTGGTAACTGGCCAAATACGTCCACGTGCTTTGAAATTATTATGAG

\* 1880 \* 1900 \* 1920  
GAAGTGGTCAATGCTCAGGCGCAAGCTCAGGCTAGGGAGCAAGTAACAAACACACCCCTTC  
GAAGTGGTCAATGCTCAGGCGCAAGCTCAGGCTAGGGAGCAAGTAACAAACACACCCCTTC

\* 1940 \* 1960 \* 1980  
ACGATACAGAGGGAGACAGCAAGTCAAGAGAGGGGAACTGCAGGGCTCTTTGGCATTCCT  
ACGATACAGAGGGAGACAGCAAGTCAAGAGAGGGGAACTGCAGGGCTCTTTGGCATTCCT

\* 2000 \* 2020 \* 2040  
CTGACCAACACATGAAATGGGACAGACTCAACCATGTCTCAGAGAAACAACTTGAATGAT  
CTGACCAACACATGAAATGGGACAGACTCAACCATGTCTCAGAGAAACAACTTGAATGAT

\* 2060 \* 2080 \* 2100  
CCTCCCCCGCTTACACACATACCATCAGCCAAAGCTTCAGCCACCTTTCACATCACTCAAA  
CCTCCCCCGCTTACACACATAGCATCAGCCAAAGGTTCAAGGACCTTTCAGATCACTCAAA

\* 2120 \* 2140 \* 2160  
GGGTCAAAATCAACTAACGATCATCGTGAACAGGGGAGACCAATCCAGACTAATATTCCT  
GGGTCAAAATCAACTAACGATCATCGTGAACAGGGGAGACCAATCCAGACTAATATTCCT

\* 2180 \* 2200 \* 2220  
CATCCGAGGGATGCTCAACCGAATACCAACTCAGTAGGAGTTGCACAAAGGTTCAACAG  
CATCCGAGGGATGCTCAACCGAATACCAACTCAGTAGGAGTTGCACAAAGGTTCAACAG

\* 2240 \* 2260 \* 2280  
CAGGGAAATGCHCTTGGCCGTTCACTGGATCTTCAAGTTCCAAACTATGAGGAGTTA  
CAGGGAAATGCHCTTGGCCGTTCACTGGATCTTCAAGTTCCAAACTATGAGGAGTTA

\* 2300 \* 2320 \* 2340  
GTCCGTGAGCTGGACAGGCTGTTTGAGTTCAATCGAGAGTTGATGGCTCCTAAGAAACAT  
GTCCGTGAGCTGGACAGGCTGTTTGAGTTCAATCGAGAGTTGATGGCTCCTAAGAAACAT

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\* 2360 \* 2380 \* 2400  
TGGTTGATAGTTTACACAGATGAAGAGATTGATATGATGCTTGTTCCTGACGATCCTTGG  
TGGTTGATAGTTTACACAGATGAAGAGATTGATATGATGCTTGTTCCTGACGATCCTTGG

\* 2420 \* 2440 \* 2460  
CAGGAGTTTGTTCATGCTTCGCAAAATCTTCATATACACGAAGAGGAAGTGAGGAAAG  
CAGGAGTTTGTTCATGCTTCGCAAAATCTTCATATACACGAAGAGGAAGTGAGGAAAG

\* 2480 \* 2500 \* 2520  
ATGAACCCGGGGACTTTAAGCTGTAGGACCGAGGAGGAGCAGTTGTTGGGGAGGGATCA  
ATGAACCCGGGGACTTTAAGCTGTAGGACCGAGGAGGAGCAGTTGTTGGGGAGGGATCA

\* 2540 \* 2560 \* 2580  
GATGCAAAGGACGGCCAGTCTGCATCAATCCTTCATTGTCCAGCGCTGGGAGCTCTTAA  
GATGCAAAGGACGGCCAGTCTGCATCAATCCTTCATTGTCCAGCGCTGGGAGCTCTTAA

SEQ ID NO: 55

SEQ ID NO: 5

## 12/51

### Alignment of w.t. MNT and mutant mnt-1 protein

[illegible]

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\* 620 \* 640 \* 660  
STENAGGNNPFRPRALNVEEVVNAOAOAOAREQVAKOPFTIQEETAKSREGNCRLEGTE

\* 680 \* 700 \* 720  
ETNNMNGADSTMSQNNLNDAGLTQETSPETODLSDOSKSKSTNDRECGRPEQENDE

\* 740 \* 760 \* 780  
NPKOAOQKINSSRSQKVIKOSVILGRSVILSKCIVESTVAPLORFTINOTANAKKE

\* 800 \* 820 \* 840  
NDAVVIDEENDMMVGDOPWOEECCVIRKTEINKEENONNPGTUSCRSEEAUVGGE

SEQ ID NO: 3

\*

DAKDAKSSNEELSSACKS

SEQ ID NO: 6

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### Figure 8

**MNT** \* 20 \* 40 \* 60  
ATGGCGAGTTCCGGAGGTTTCATGAAGCTATTCGTGGA---CGAGTAACTTCTCCTCC  
ATGGCGAGTTCCGGAGGTTTCATGAAGCTATTCGTGGAAGGAGAACTTCTCCTCC

**BnARF2** \* 80 \* 100 \* 120  
TCTGGTTTATGTGACCCAAAGGAGACTTATATGATGCGTCCGCCGGCGAGGCGCATAAA  
CTCTGGTTTATGTGACCC---GAC---G---GTCCGCCGGCGAGGCGCATAAA

\* 140 \* 160 \* 180  
AGTAATTTCTACCCGATCCGCTGCGGCTGAGCGTGGCTTGGACCCCTGAGGCTGCTCTTAC  
ACTCAGTCTTAACCGATCTGTGCTGCGAGCGGCTTGTGGACCCGTAAGCTGCTCTTAC

\* 200 \* 220 \* 240  
AGTGAGCTTGGGCACGCTTGTGCTGGTCCCTCTGTGACGTTTCTAGACAGAGGACCCGA  
CTGTAGCTTGGGCACGCTTGTGCTGGTCCCTCTGTGACGTTTCTAGACAGAGTACCCGA

\* 260 \* 280 \* 300  
GTCTTCTATTTTCTCTCAAGACACATCGAGCAGGTGGAGGCTTCGACGATTCAGGCTGCA  
GTCTTCTATTTTCTCTCAAGGACACATCGAGCAGGTGGAGGCTTCGACGATTCAGGCTGCA

\* 320 \* 340 \* 360  
GAACACAGATGCCCTCTCTATGATCTTCCGTCAGGCTTCTTGTCCGAGTTATTAAAGTT  
GAACACAGATGCCCTCTCTATGATCTTCCGTCAGGCTTCTTGTCCGAGTTATTAAAGTT

\* 380 \* 400 \* 420  
GATTTAAGGCAGAGGCAGATACAGATGAAGTTATGCGCAGATTACICTTCTTCCGAG  
GATTTAAGGCAGAGGCAGATACAGATGAAGTTATGCGCAGATTACICTTCTTCCGAG

\* 440 \* 460 \* 480  
GCTAATCAAGACGAGAATTCATTGAGAAAGAGCGGCTCTTCTCCAGCTCCGAGGTTT  
CTGTTCAAGACGAGAATTCATTGAGAAAGAGCGGCTCTTCTCCAGCTCCGAGGTTT

\* 500 \* 520 \* 540  
CAGGTCATTCGTTCTGCAAAACCTTGACTGCATCCGACACAGTACACATGGTGGATT  
CAGGTCATTCGTTCTGCAAAACCTTGACTGCATCCGACACAGTACACATGGTGGATT



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\* 560 \* 580 \* 600  
 TCTGTTCTTAGGCGACATGCGGATGATGTCTCCACCTCTGGATATGTCTCGACAGGCT  
 TCTGTTCTTAGGCGACATGCGGATGATGTCTCCACCTCTGGATATGTCTCGACAGGCT

\* 620 \* 640 \* 660  
 CCAGCTCAGAGTTAGTTGCAATGATGCGATGCAATGAGTGGCGATTGAGACATATG  
 CCTACTCAGAGTTAGTTGCAATGATGCGATGCAATGAGTGGCGATTGAGACATATG

\* 680 \* 700 \* 720  
 TTCCGGGGTCAACCCACGAGGCAATTTGCTTCAGAGTGGGTGGAGTGTGTTGTTAGCTCC  
 TTCCGGGGTCAACCCACGAGGCAATTTGCTTCAGAGTGGGTGGAGTGTGTTGTTAGCTCC

\* 740 \* 760 \* 780  
 ATAGGCTTCTTSCAGGCGATCCCTTTATATTTCTAGGGGCGAGATGGAGATTTAGG  
 ATAGGCTTCTTSCAGGCGATCCCTTTATATTTCTAGGGGCGAGATGGAGATTTAGG

\* 800 \* 820 \* 840  
 GTTGGTGTAGGGCGTGGATGGCGCATGAGGGAATGAGGCGTCTTCTGTTATATCTAGG  
 GTTGGTGTAGGGCGTGGATGGCGCATGAGGGAATGAGGCGTCTTCTGTTATATCTAGG

\* 860 \* 880 \* 900  
 CATAGCATGCATCTTGGAGTATGGCCCATGGCATGGCATGGCATTTTCAGAGGAGTATG  
 CATAGCATGCATCTTGGAGTATGGCCCATGGCATGGCATGGCATTTTCAGAGGAGTATG

\* 920 \* 940 \* 960  
 TTTACAGTCTACTATGATACCAGGRCAGGCGATCTGAGTTTATTTGTTCCGTTGGATCAG  
 TTTACAGTCTACTATGATACCAGGRCAGGCGATCTGAGTTTATTTGTTCCGTTGGATCAG

\* 980 \* 1000 \* 1020  
 TATATGGAGTCTTATGAGATTAACCTACCTATTGGCATGAGATTCAAAAGAGATTTGAA  
 TATATGGAGTCTTATGAGATTAACCTACCTATTGGCATGAGATTCAAAAGAGATTTGAA

\* 1040 \* 1060 \* 1080  
 GGCGAAGAGGCTCCCTGAGCAGAGGTTTACTGGCACAATCGTTGGGATTGAGAGCTGAT  
 GGCGAAGAGGCTCCCTGAGCAGAGGTTTACTGGCACAATCGTTGGGATTGAGAGCTGAT

\* 1100 \* 1120 \* 1140  
 CCTACTAGGTTGGCAAAATCAAGTGGAGATCCCTCAGGTTGAGATGGGATGAGATCTCT  
 CCTACTAGGTTGGCAAAATCAAGTGGAGATCCCTCAGGTTGAGATGGGATGAGATCTCT

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\* 1160 \* 1180 \* 1200  
AGTATTCTCTCGA CCTGATAGAGTATCT CCGTGGAAAG TAGAGCCAGCTCTT CCI CCICCI  
AGTATTCTCTCGA CCTGATAGAGTATCT CCGTGGAAAG TAGAGCCAGCTCTT CCI CCICCI

\* 1220 \* 1240 \* 1260  
GCCTTGAGT CCTGT TCCAATGCCTAGGCCCTAAGAGGCCAGATCTAATTAAGCAGCTTCA  
GCCTTGAGT CCTGT TCCAATGCCTAGGCCCTAAGAGGCCAGATCTAATTAAGCAGCTTCA

\* 1280 \* 1300 \* 1320  
TCTCCTGACTCTTCGATGCTTAGCAGAGAGGGTACAACTAAGGCCAATCATGGACCCCTTTA  
TCTCCTGACTCTTCGATGCTTAGCAGAGAGGGTACAACTAAGGCCAATCATGGACCCCTTTA

\* 1340 \* 1360 \* 1380  
CCGCCAAGTGGGACTTTCARAGGGTCTTGCAAGGTCARAGATACCGACCTTGAGGACGAAAT  
CCGCCAAGTGGGACTTTCARAGGGTCTTGCAAGGTCARAGATACCGACCTTGAGGACGAAAT

\* 1400 \* 1420 \* 1440  
CATCTGAGAGTGTAGATCTGATGCTCCCTGAGAAATCTCTTGTCTGGCAATCTTCAGCC  
CATCTGAGAGTGTAGATCTGATGCTCCCTGAGAAATCTCTTGTCTGGCAATCTTCAGCC

\* 1460 \* 1480 \* 1500  
GATGATGATTAAGGTTGATCTGGTTTCGGGTTCTAGAGATATGCAATCGAGAACTGGATG  
GATGATGATTAAGGTTGATCTGGTTTCGGGTTCTAGAGATATGCAATCGAGAACTGGATG

\* 1520 \* 1540 \* 1560  
TCCICAGCCAGGCATGAACCTACTTTCACAGATTTCCTCCGGCTTTGGGACTAACATTA  
TCCICAGCCAGGCATGAACCTACTTTCACAGATTTCCTCCGGCTTTGGGACTAACATTA

\* 1580 \* 1600 \* 1620  
GATCCATCCCATCTCTCAGCCGATACCTTTTATGACCAAT --- CATCATCACCTTCATG  
GATCCATCCCATCTCTCAGCCGATACCTTTTATGACCAATCATCATCACCTTCATG

\* 1640 \* 1660 \* 1680  
CCTGCAATAGAGATCTTCAGTGAATTCAGAAAGCAAGTTGATATCTTGGCTAACCAATGG  
CCTGCAATAGAGATCTTCAGTGAATTCAGAAAGCAAGTTGATATCTTGGCTAACCAATGG

\* 1700 \* 1720 \* 1740  
CAGATGATACACTCTGCTCTCTCCCTGAGGTTACATGAACTCCCTAAGCTACCTGGACCA  
---ATGATGCACTCAGCCCTTCCCTGAGGTTACATGAACTCCCTAAGCTCCCTGGACCA

## REPLACEMENT SHEET

17/51

\* 1760 \* 1780 \* 1800  
ACTGATGCCCTCTCTCCAGGGCGATSCAATGTTAAATACGCCGAATATCTCTCTTAAAT  
TCTGATGCCCTCTCTCCAGGGATAGSCAATGCCAATTACGCCGAATATCTCTCTTAAAT

\* 1820 \* 1840 \* 1860  
GGTCTATCGACTGAGATGCTGGTGGTAACTGGCCAAATACGTCCACGTGCTTGAATTAT  
GAGTGAAGACTGAGATGCTGGTGGTAACTGGCCAAATACGTCCACGTGCTTGAATTAT

\* 1880 \* 1900 \* 1920  
TATGAGCAAGTGGTCTATGCTCAGGCTAGCGAGCACTTACAAATACAT  
TTTGAAGAGGGT-----TCAT-----GCTCAGGCTAGCGAGCATTTGACAAATGCT

\* 1940 \* 1960 \* 1980  
CCCTTCA--CGATACAGAGGGAGCAGCCAAGTCAAGCAGAGCGGAACTGCGAGGCTTTT  
CC-TCCGGTCC-TACAGAGGGAGCAGCCAAGCAGAGAGCAGGAACTGCGAGGCTTTT

\* 2000 \* 2020 \* 2040  
GCATTCCCTCTGTCGAACACATGAATGGGACAGACTCAACCTGTCTCAGAGAACACAT  
GCATTCCCTCTGTCGAACACATGAATGGGACAGATCAACCTGTCTCAGAGAACAT

\* 2060 \* 2080 \* 2100  
TGAATGATGCTGCGGGGGCTTACACAGATAGCATCACCAAGGGTTCAGGAGCTTTCAGAT  
TGAATGATGCTGCGGGGGCTTACACAGATAGCATCACCAAGGGTTCAGGAGCTTTCAGAT

\* 2120 \* 2140 \* 2160  
AGTCAAAAGGGTCAAATCCAAACGATCATCGTGAACAGGCAAGACCATTCAGAGCT  
AGTCAAAAGGGTCAAATCCAAACGATCATCGTGAACAGGCAAGACCATTCAGAGCT

\* 2180 \* 2200 \* 2220  
ATATTCCTCATCCGAGGATCTCAAAACCAAAACAACTCAAGTACGATTCAGAGCT  
GTAATCCCATCCGAGGATCTCAAAACCAAAACAACTCAAGTACGATTCAGAGCT

\* 2240 \* 2260 \* 2280  
TTCAAGGAGGGGATTTGCACTTGGCCGTTCAAGTGGATCTTCAAAAGTTCCAAACTATG  
TTCAAGGAGGGGATTTGCACTTGGCCGTTCAAGTGGATCTTCAAAAGTTCCAAACTATG

\* 2300 \* 2320 \* 2340  
AGGAGTTATCTGCTGAGCTGGACAGGCTGTTTGAATTCATTCGAGAGTTGATCGCTCCAT  
AGGAGTTATCTGCTGAGCTGGACAGGCTGTTTGAATTCATTCGAGAGTTGATCGCTCCAT

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\* 2360 \* 2380 \* 2400  
 AGAAGATTGGTIGATAGTTTACACAGATGAGAGATGATATGATGCTTGTGGTACCG  
 AGAAGATTGGTIGATAGTTTACACAGATGAGAGATGATATGATGCTTGTGGTACCG

\* 2420 \* 2440 \* 2460  
 ATCCTTGGCAGGAGTTTGTTCATGGTTCCGAAATCTTCATATACACGAAAGAGGAG  
 ATCCTTGGCAGGAGTTTGTTCATGGTTCCGAAATCTTCATATACACGAAAGAGGAG

\* 2480 \* 2500 \* 2520  
 TCAGGARGATGACCCCGGGSACTTTAAGCTGTAGGAGCGAGGAAGAGCAGTTGTTGGGG  
 TCAGGARGATGACCCCGGGSACTTTAAGCTGTAGGAGCGAGGAAGAGCAGTTGTTGGGG

\* 2540 \* 2560 \* 2580  
 AAGGATCAGATGCAAGGGACGCGAAGTCTGCATCAATTCCTTCATTGTCCAGCGCTGCGA  
 AAGGATCAGATGCAAGGGACGCGAAGTCTGCATCAATTCCTTCATTGTCCAGCGCTGCGA

SEQ ID NO: 55

ACTCTTAA  
 ACTCTTAA

SEQ ID NO: 9

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Figure 9

Alignment of MNT, BnARF2, OsARF2 proteins

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      *           20           *           40           *
MNTwt : MASSEVSMKGNRC-CDMFSSSGFSDEKETRNVS TAGEGQKSNSTRSAATERALDL
BnARF2 : MASSEVSMKGNRCRCENTFSSAGYSDE-----TAGEAQKTQSNRSVAAERVVDP
OsARF2 : -----GDL

      60           *           80           *           100           *
MNTwt : EARLYRELWHACAGPLVTVPQDDRVFYFPQGHILEQVEASTNQAEQQMPLYDLF
BnARF2 : EARLYRELWHACAGPLVTVPQDDRVFYFPQGHILEQVEASTNQAEQQMPLYDLF
OsARF2 : ---LYDELWHACAGPLVTVPQDGLVFYFPQGHILEQVEASTNQVAQSOMRLYDLF

      120           *           140           *           160
MNTwt : SKLLCRVLIIVELKAEADTDEVYAAQITLLPEARNQDENATEKEAPLPPP--PRFQVH
BnARF2 : SKLLCRVLIIVDLKAEADTDEVYAAQITLLPEPVQDEHSIEKEAPPPP--PRFQVH
OsARF2 : SKLLCRVLIIVELKAEQDTDEVYAAQVTLQDEEQNEMAVEKTTTSGPVQAPPPP

      *           180           *           200           *           220
MNTwt : SFCKTLTASDTSTHGGFSVLRHHADECLPPLDLSRQPPQTQELVAKDLHANEWRIE
BnARF2 : SFCKTLTASDTSTHGGFSVLRHHADECLPPLDLSRQPPQTQELVAKDLHASLWNPE
OsARF2 : SFCKTLTASDTSTHGGFSVLRHHADECLPPLDLSRQPPQTQELVAKDLHSMDWNPE

      *           240           *           260           *
MNTwt : HIFRGQPRRHLLQSGWSVTVSSKRLVAGDAFIFLRGENGELRVGVRRAMRQGGNV
BnARF2 : HIFRGQPRRHLLQSGWSVTVSSKRLVAGDAFIFLRGENGELELVGVRRAMRQGGNV
OsARF2 : HIFRGQPRRHLLQSGWSVTVSSKRLVAGDAFIFLRGENGELELVGVRRAMKQLSNV

      280           *           300           *           320           *
MNTwt : PSSVSSSHSMHLGVLATAWHAISTETMTFVYYKPRTSPSEFIYPTDQYMESVKRH
BnARF2 : PSSVSSSHSMHLGVLATAWHAISTETMTFVYYKPRTSPSEFIYPTDQYMESVKRH
OsARF2 : PSSVSSSHSMHLGVLATAWHAITIKSMFTVYYKPRTSPSEFIYPTDQYMESVKRH

      340           *           360           *           380
MNTwt : YSIGMRFMRFEGEEAPEQRFTGTITVGIEESDPTKWPKSKWRSCLKVRWDETSSIP
BnARF2 : YSIGMRFMRFEGEEAPEQRFTGTITVGIEESDPTKWKSKWRSCLKVRWDETTSSIP
OsARF2 : YSVGMRFMRFEGERAPEQRFTGTITGSENLDPV-WPESSKRSCLKVRWDEPSTIP

      *           400           *           420           *           440
MNTwt : RPDVSPKTEPALAPPALSPVDMRPPKRRSRNLAPSSPDSSMLTRECTTKAHMD
BnARF2 : RPDVSPKTEPALAPPALSPVDMRPPKRRSRNLAPSSPDSSMLTRECTTKAHMD
OsARF2 : RPDVSPKTEPALAPP-VNLEPLSRVNDPDAPEASPEPITTKAATVDTD

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## REPLACEMENT SHEET

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\* 460 \* 480 \*  
 MNTwt : PLPA--SELSEVLQGEYSFLRKHVESVECDAPENS-VVWQSSADDDKVDVVS  
 BnARF2: PLPA--SELSEVLQGEYPTLRKHVESVECDAPENS-VVWQSSADDDKVDVLSA  
 OsARF2: DAQFORSONSTVLQGEOMFLRNLIESNDSVDVTAHKPMWSPSPNAAKAHPLTF

500 \* 520 \* 540 \*  
 MNTwt : SRRYGSERFMSSARHEPTVDDLSCGCTNIDPSHGQRJHFYDH-SSSPSMPA-RK  
 BnARF2: SRRY--ERMTSSCHNGPTCDLSCGCTNIEEPHGHOIDFYDRLSSHPSVA-RK  
 OsARF2: QQRFPMDNMQLSRRETDFKDVRSQ-SQSFQDSPSFFMNFDE--ADNRLTSFHW

560 \* 580 \* 600  
 MNTwt : ILSDSSEKFDYLANQWQMLHSGLSLKLHESPKVPARTDASLOERCHVKESEYVVL  
 BnARF2: ILSDDQEKFEYLANQWMLHSGLSLKLHESPKVPARTDASFOEIGIPNYGEYALP  
 OsARF2: QFQDQ--SARHFSDPYYYV-----SPOPSLTVESSTQMTDSK--ELHFW

\* 620 \* 640 \* 660  
 MNTwt : NGLSTENAGSHWFINPRALNYEEVWQAQAR-ED-VTKQFTTQCF-ETAY  
 BnARF2: RAVTTEHAGSHWFINPRALNYEEVWQAQAR-ED-VTKQFTTQCF-ETAY  
 OsARF2: NGQST--VYHNSRDNDONFRFEQNSSSLNDSFARFQPRVIRPHASTAPVELEN

\* 680 \* 700 \*  
 MNTwt : SRETHCRLEFCIPL-THRM--HETESTESQRHH--LNDAGLTQIASPKVQDLSLC  
 BnARF2: PROTHCRLEFCIPL-VHIV--HETDTILSRHH--LNDAGLTQIASPKVQDLSLC  
 OsARF2: TEGSGFKIEGFKVDITNAPNHLSSPLAATHEPMLQTESSENQLOFVQDLCIEV

720 \* 740 \* 760 \*  
 MNTwt : SKGSKSTNDHREQGRPFQTNNEHEDKAQTKTH--SSRSCTKVHKQGLALGRSVDI  
 BnARF2: SKGSKSTNDHREQGRPFVSKDHPKDVQTKTH--SSRSCTKVHKQGLALGRSVDI  
 OsARF2: SVSTAGIATENEKSG--QQAQSSKDVQSKQVASTESCTKVHKQGLALGRSVDI

780 \* 800 \* 820  
 MNTwt : SKFQHYEELVAELDRLFEFNGELMAPKKDWLIVYTDDENDMLLVGDDPWQEFCCM  
 BnARF2: SKFQHYEELVAELDRLFEFNGELMAPKKDWLIVYTDDENDMLLVGDDPWQEFCCM  
 OsARF2: SKFSHYDELKAEELDKMFEFDGELVSSKQWQIVYTDNEGDMMLVGDDPWQEFCCM

\* 840 \* 860 \*  
 MNTwt : VRKIFLYIKKEEVKQNPCTLSQRSEEEAGGEGSDAKDKSASHPSLSSAGHS  
 BnARF2: VRKIFLYIKKEEVKQNPCTLSQRSEEEAGGEGSDAKDKSASHPSLSSAGHS  
 OsARF2: VRKIFLYIKKEEVKQNPCTLSQRSEEEAGGEGSDAKDKSASHPSLSSAGHS

SEQ ID  
NO: 3SEQ ID  
NO: 10SEQ ID  
NO: 61